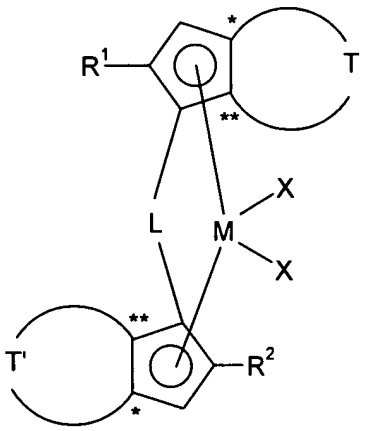
ATTACHMENT A

Claims 1 - 15: (Cancelled)

16. (Previously Presented) A process for preparing a catalyst solid for olefin polymerization comprising a finely divided support, an aluminoxane, a metallocene compound product, and an organometallic compound, wherein the process comprises

- combining the finely divided support with the aluminoxane to form a modified support, and subsequently

- reacting a metallocene compound of formula (I),



(I)

where

M is zirconium, hafnium or titanium;

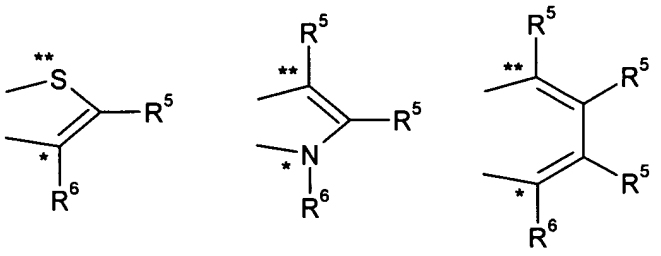
X are identical or different and are each, independently of one another, hydrogen or halogen or a group -R, -OR, $-OSO_2CF_3$, -OCOR, -SR,

$-NR_2$ or $-PR_2$, where R is linear or branched C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl which may bear one or more C_1-C_{10}-alkyl radicals as substituents, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl or C_7-C_{20}-arylalkyl and may contain one or more heteroatoms from groups 13 - 17 of the Periodic Table of the Elements or one or more unsaturated bonds, with the two radicals X also being able to be joined to one another;

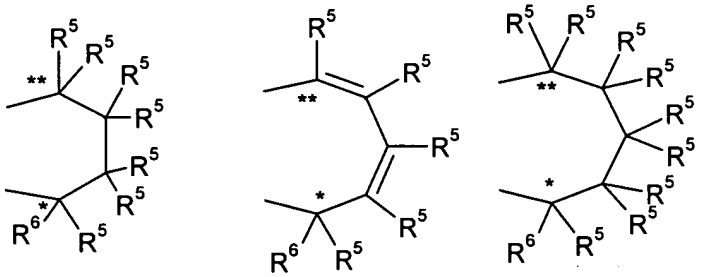
L is a divalent bridging group selected from the group consisting of C_1-C_{20}-alkylidene, C_3-C_{20}-cycloalkylidene, C_6-C_{20}-arylidene, C_7-C_{20}-alkylarylidene and C_7-C_{20}-arylalkylidene radicals which may contain heteroatoms from groups 13 - 17 of the Periodic Table of the Elements or is a silylidene group having up to 5 silicon atoms;

R^1 and R^2 are identical or different and are each, independently of one another, hydrogen or linear or branched C_1-C_{20}-alkyl or C_3-C_{20}-cycloalkyl which may bear one or more C_1-C_{10}-alkyl radicals as substituents, C_6-C_{20}-aryl, C_7-C_{40}-alkylaryl or C_7-C_{40}-arylalkyl and may contain one or more heteroatoms from groups 13 - 17 of the Periodic Table of the Elements or one or more unsaturated bonds;

T and T' are divalent groups of the formulae (II), (III), (IV), (V), (VI) or (VII),



(II) (III) (IV)



(V) (VI) (VII)

where

the atoms denoted by the symbols * and ** are in each case joined to the atoms of the compound of the formula (I) which are denoted by the same symbol; and

R^5 and R^6 are identical or different and are each, independently of one another, hydrogen or halogen or linear or branched C_1-C_{20}-alkyl or C_3-C_{20}-cycloalkyl which may bear one or more C_1-C_{10}-alkyl radicals as substituents, C_6-C_{40}-aryl, C_7-C_{40}-alkylaryl or C_7-C_{40}-arylalkyl and may contain one or more heteroatoms from groups 13 - 17 of the Periodic Table of the Elements or one or more unsaturated bonds or two radicals R^5 or

R^5 and R^6 are joined to one another to form a saturated or unsaturated C_3-C_{20} ring;

with at least one organometallic compound of formula (VIII)

$$M^1 (R^7)_r (R^8)_s (R^9)_t \qquad \text{(VIII)}$$

where

M^1 is an alkali metal, an alkaline earth metal or a metal of group 13 of the Periodic Table;

R^7 is hydrogen, C_1-C_{10}-alkyl, C_3-C_{10}-cycloalkyl, C_6-C_{15}-aryl, alkylaryl or arylalkyl each having from 1 to 10 carbon atoms in the alkyl part and from 6 to 20 carbon atoms in the aryl part;

R^8 and R^9 are each hydrogen, halogen, C_1-C_{10}-alkyl, C_3-C_{10}-cycloalkyl, C_6-C_{15}-aryl, alkylaryl, arylalkyl or alkoxy each having from 1 to 10 carbon atoms in the alkyl part and from 6 to 20 carbon atoms in the aryl part;

r is an integer from 1 to 3;

and

s and t are integers from 0 to 2, where the sum r+s+t corresponds to the valence of M^3;

wherein the organometallic compounds of formula (VIII) comprise at least one branched alkyl radical comprising up to 10 carbon atoms, or a cycloalkyl radical comprising from 3 to 10 carbon atoms;

to form a reaction product which is added to the modified support, wherein the finely divided support and aluminoxane are combined in suspension, and the reaction product and the modified support are contacted in suspension with the suspension medium being removed by evaporation after the reaction product is contacted with the modified support.

17. (Previously Presented) The process for preparing a catalyst solid for olefin polymerization as claimed in claim 16, wherein the finely divided support comprises functional groups, and the finely divided support and an amount of the aluminoxane are selected so that essentially the total amount of the aluminoxane used has reacted with the functional groups of the finely divided support.

18. (Previously Presented) The process for preparing a catalyst solid for olefin polymerization as claimed in claim 16, wherein the organometallic compound of formula (VIII) is triisobutylaluminum, diisobutylaluminum hydride or a mixture of the two compounds.

19. (Previously Presented) A catalyst solid obtained by the process as claimed in claim 16.

20. (Previously Presented) A catalyst system for polymerizing olefins, comprising said catalyst solid as claimed in claim 19.

21. (Previously Presented) A process for polymerizing olefins which comprises using the catalyst system as claimed in claim 20.

22. (Previously Presented) A process for preparing a catalyst solid for olefin polymerization as claimed in claim 17, wherein the organometallic compound of formula (VIII) which is used is triisobutylaluminum, diisobutylaluminum hydride or a mixture of the two compounds.

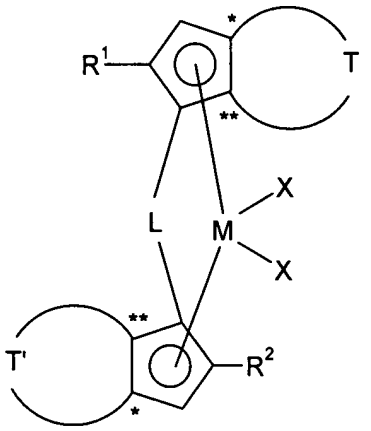
23. (Previously Presented) A catalyst solid obtained by the process as claimed in claim 22.

24. (Previously Presented) A process for polymerizing olefins which comprises using the catalyst system as claimed in claim 23.

25. (New) A process for preparing a catalyst solid for olefin polymerization comprising a finely divided support, an aluminoxane, a metallocene compound product, and an organometallic compound, wherein the process comprises

- combining the finely divided support with the aluminoxane to form a modified support, and subsequently

- reacting a metallocene compound of formula (I),



(I)

where

M is zirconium, hafnium or titanium;

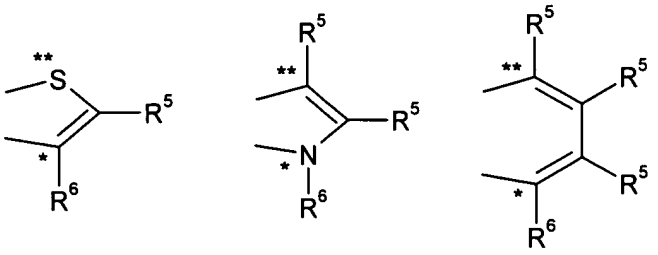
X are identical or different and are each, independently of one another, hydrogen or halogen or a group -R, -OR, $-OSO_2CF_3$, -OCOR, -SR,
$-NR_2$ or $-PR_2$, where R is linear or branched C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl which may bear one or more C_1-C_{10}-alkyl radicals as substituents, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl or C_7-C_{20}-arylalkyl and may contain one or more heteroatoms from groups 13 - 17 of the Periodic Table of the Elements or one or more unsaturated bonds, with the two radicals X also being able to be joined to one another;

L is a divalent bridging group selected from the group consisting of C_1-C_{20}-alkylidene, C_3-C_{20}-cycloalkylidene, C_6-C_{20}-arylidene, C_7-C_{20}-alkylarylidene and C_7-C_{20}-arylalkylidene

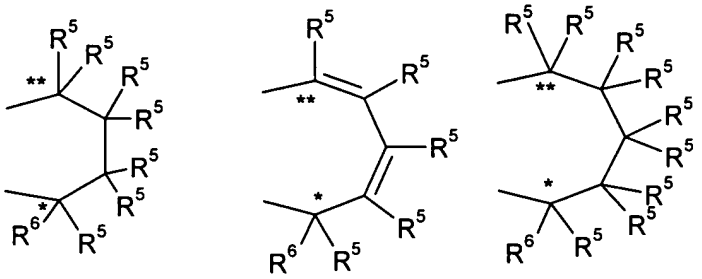
radicals which may contain heteroatoms from groups 13 - 17 of the Periodic Table of the Elements or is a silylidene group having up to 5 silicon atoms;

R^1 and R^2 are identical or different and are each, independently of one another, hydrogen or linear or branched C_1-C_{20}-alkyl or C_3-C_{20}-cycloalkyl which may bear one or more C_1-C_{10}-alkyl radicals as substituents, C_6-C_{20}-aryl, C_7-C_{40}-alkylaryl or C_7-C_{40}-arylalkyl and may contain one or more heteroatoms from groups 13 - 17 of the Periodic Table of the Elements or one or more unsaturated bonds;

T and T' are divalent groups of the formulae (II), (III), (IV), (V), (VI) or (VII),



(II) (III) (IV)



(V) (VI) (VII)

where

the atoms denoted by the symbols * and ** are in each case joined to the atoms of the compound of the formula (I) which are denoted by the same symbol; and

R^5 and R^6 are identical or different and are each, independently of one another, hydrogen or halogen or linear or branched C_1-C_{20}-alkyl or C_3-C_{20}-cycloalkyl which may bear one or more C_1-C_{10}-alkyl radicals as substituents, C_6-C_{40}-aryl, C_7-C_{40}-alkylaryl or C_7-C_{40}-arylalkyl and may contain one or more heteroatoms from groups 13 - 17 of the Periodic Table of the Elements or one or more unsaturated bonds or two radicals R^5 or

R^5 and R^6 are joined to one another to form a saturated or unsaturated C_3-C_{20} ring;

with at least one organometallic compound of formula (VIII)

$$M^1 (R^7)_r (R^8)_s (R^9)_t \qquad \text{(VIII)}$$

where

M^1 is an alkali metal, an alkaline earth metal or a metal of group 13 of the Periodic Table;

R^7 is hydrogen, C_1-C_{10}-alkyl, C_3-C_{10}-cycloalkyl, C_6-C_{15}-aryl, alkylaryl or arylalkyl each having from 1 to 10 carbon atoms in the alkyl part and from 6 to 20 carbon atoms in the aryl part;

R^8 and R^9 are each hydrogen, halogen, C_1-C_{10}-alkyl, C_3-C_{10}-cycloalkyl, C_6-C_{15}-aryl, alkylaryl, arylalkyl or alkoxy each having from 1 to 10 carbon atoms in the alkyl part and from 6 to 20 carbon atoms in the aryl part;

r is an integer from 1 to 3;

and

s and t are integers from 0 to 2, where the sum r+s+t corresponds to the valence of M^3;

wherein the organometallic compounds of formula (VIII) comprise at least one branched alkyl radical comprising up to 10 carbon atoms, or a cycloalkyl radical comprising from 3 to 10 carbon atoms, and the molar ratio of M^1 from the organometallic compounds of formula (VIII) to M from the metallocene compounds of formula (I) ranges from 800:1 to 1:1;

to form a reaction product which is added to the modified support, wherein the finely divided support and aluminoxane are combined in suspension, and the reaction product and the modified support are contacted in suspension with the suspension medium being removed by evaporation after the reaction product is contacted with the modified support.

26. (New) The process according to claim 25, wherein the molar ratio of M^1 from the organometallic compounds of formula (VIII) to M from the metallocene compounds of formula (I) ranges from 200:1 to 2:1.

27. (New) The process for preparing a catalyst solid for olefin polymerization as claimed in claim 25, wherein the finely divided support comprises functional groups, and the finely divided support and an amount of the aluminoxane are selected so that essentially the total amount of the aluminoxane used has reacted with the functional groups of the finely divided support.

28. (New) The process for preparing a catalyst solid for olefin polymerization as claimed in claim 25, wherein the organometallic compound of formula (VIII) is triisobutylaluminum, diisobutylaluminum hydride or a mixture of the two compounds.

29. (New) A catalyst solid obtained by the process as claimed in claim 25.

30. (New) A catalyst system for polymerizing olefins, comprising said catalyst solid as claimed in claim 29.

31. (New) A process for polymerizing olefins which comprises using the catalyst system as claimed in claim 30.

32. (New) A process for preparing a catalyst solid for olefin polymerization as claimed in claim 27, wherein the organometallic compound of formula (VIII) which is used is triisobutylaluminum, diisobutylaluminum hydride or a mixture of the two compounds.

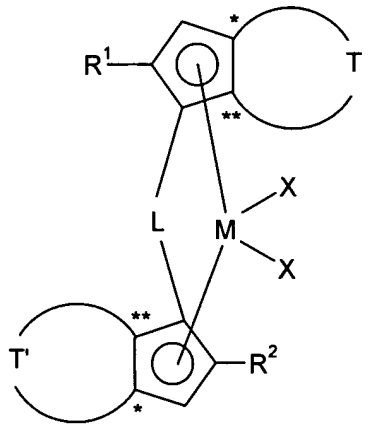
33. (New) A catalyst solid obtained by the process as claimed in claim 32.

34. (New) A process for polymerizing olefins which comprises using the catalyst system as claimed in claim 33.

35. (New) A process for preparing a catalyst solid for olefin polymerization comprising a finely divided support, an aluminoxane, a metallocene compound product, and an organometallic compound, wherein the process comprises

- combining the finely divided support with the aluminoxane to form a modified support, and subsequently

- reacting a metallocene compound of formula (I),



(I)

where

M is zirconium, hafnium or titanium;

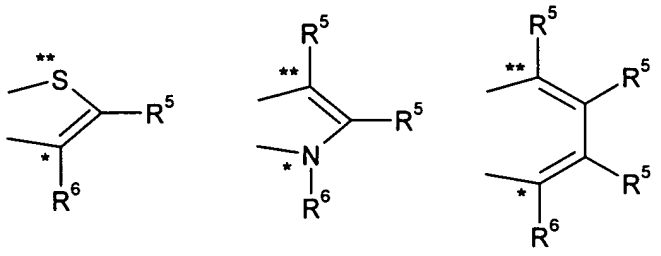
X are identical or different and are each, independently of one another, hydrogen or halogen or a group -R, -OR, $-OSO_2CF_3$, -OCOR, -SR,
$-NR_2$ or $-PR_2$, where R is linear or branched C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl which may bear one or more C_1-C_{10}-alkyl radicals as substituents, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl or C_7-C_{20}-arylalkyl and may contain one or more heteroatoms from groups 13 - 17 of the Periodic Table of the Elements or one or more unsaturated bonds, with the two

radicals X also being able to be joined to one another;

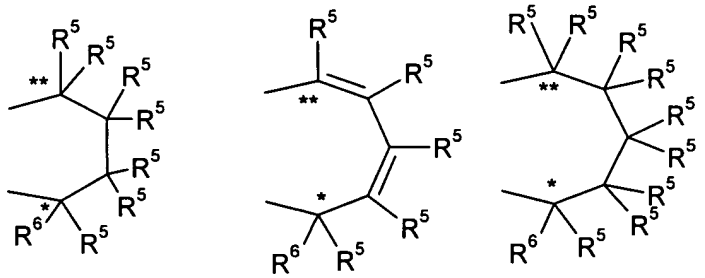
L is a divalent bridging group selected from the group consisting of C_1-C_{20}-alkylidene, C_3-C_{20}-cycloalkylidene, C_6-C_{20}-arylidene, C_7-C_{20}-alkylarylidene and C_7-C_{20}-arylalkylidene radicals which may contain heteroatoms from groups 13 - 17 of the Periodic Table of the Elements or is a silylidene group having up to 5 silicon atoms;

R^1 and R^2 are identical or different and are each, independently of one another, hydrogen or linear or branched C_1-C_{20}-alkyl or C_3-C_{20}-cycloalkyl which may bear one or more C_1-C_{10}-alkyl radicals as substituents, C_6-C_{20}-aryl, C_7-C_{40}-alkylaryl or C_7-C_{40}-arylalkyl and may contain one or more heteroatoms from groups 13 - 17 of the Periodic Table of the Elements or one or more unsaturated bonds;

T and T' are divalent groups of the formulae (II), (III), (IV), (V), (VI) or (VII),



(II) (III) (IV)



(V) (VI) (VII)

where

the atoms denoted by the symbols * and ** are in each case joined to the atoms of the compound of the formula (I) which are denoted by the same symbol; and

R^5 and R^6 are identical or different and are each, independently of one another, hydrogen or halogen or linear or branched C_1-C_{20}-alkyl or C_3-C_{20}-cycloalkyl which may bear one or more C_1-C_{10}-alkyl radicals as substituents, C_6-C_{40}-aryl, C_7-C_{40}-alkylaryl or C_7-C_{40}-arylalkyl and may contain one or more heteroatoms from groups 13 - 17 of the Periodic Table of the Elements or one or more unsaturated bonds or two radicals R^5 or

R^5 and R^6 are joined to one another to form a saturated or unsaturated C_3-C_{20} ring;

with at least one organometallic compound of formula (VIII)

$$M^1 (R^7)_r (R^8)_s (R^9)_t \qquad \text{(VIII)}$$

where

M^1 is an alkali metal, an alkaline earth metal or a metal of group 13 of the Periodic Table;

R^7 is hydrogen, C_1-C_{10}-alkyl, C_3-C_{10}-cycloalkyl, C_6-C_{15}-aryl, alkylaryl or arylalkyl each having from 1 to 10 carbon atoms in the alkyl part and from 6 to 20 carbon atoms in the aryl part;

R^8 and R^9 are each hydrogen, halogen, C_1-C_{10}-alkyl, C_3-C_{10}-cycloalkyl, C_6-C_{15}-aryl, alkylaryl, arylalkyl or alkoxy each having from 1 to 10 carbon atoms in the alkyl part and from 6 to 20 carbon atoms in the aryl part;

r is an integer from 1 to 3;

and

s and t are integers from 0 to 2, where the sum r+s+t corresponds to the valence of M^3;

wherein the organometallic compounds of formula (VIII) comprise at least one branched alkyl radical comprising up to 10 carbon atoms, or a cycloalkyl radical comprising from 3 to 10 carbon atoms;

to form a reaction product which is added to the modified support, wherein the finely divided support and aluminoxane are combined in suspension, and the reaction product and the modified support are contacted in suspension with the suspension medium being removed by evaporation after the reaction product is contacted with the modified support, and wherein the atomic ratio of aluminum from the aluminoxanes to M from the metallocene compounds of formula (I) ranges from 20:1 to 500:1.

36. (New) The process according to claim 35, wherein the atomic ratio of aluminum from the aluminoxanes to M from the metallocene compounds of formula (I) ranges from 30:1 to 400:1.

37. (New) The process for preparing a catalyst solid for olefin polymerization as claimed in claim 35, wherein the finely divided support comprises functional groups, and the finely divided support and an amount of the aluminoxane are selected so that essentially the total amount of the aluminoxane used has reacted with the functional groups of the finely divided support.

38. (New) The process for preparing a catalyst solid for olefin polymerization as claimed in claim 35, wherein the

organometallic compound of formula (VIII) is triisobutylaluminum, diisobutylaluminum hydride or a mixture of the two compounds.

39. (New) A catalyst solid obtained by the process as claimed in claim 35.

40. (New) A catalyst system for polymerizing olefins, comprising said catalyst solid as claimed in claim 49.

41. (New) A process for polymerizing olefins which comprises using the catalyst system as claimed in claim 40.

42. (New) A process for preparing a catalyst solid for olefin polymerization as claimed in claim 37, wherein the organometallic compound of formula (VIII) which is used is triisobutylaluminum, diisobutylaluminum hydride or a mixture of the two compounds.

43. (New) A catalyst solid obtained by the process as claimed in claim 42.

44. (New) A process for polymerizing olefins which comprises using the catalyst system as claimed in claim 43.